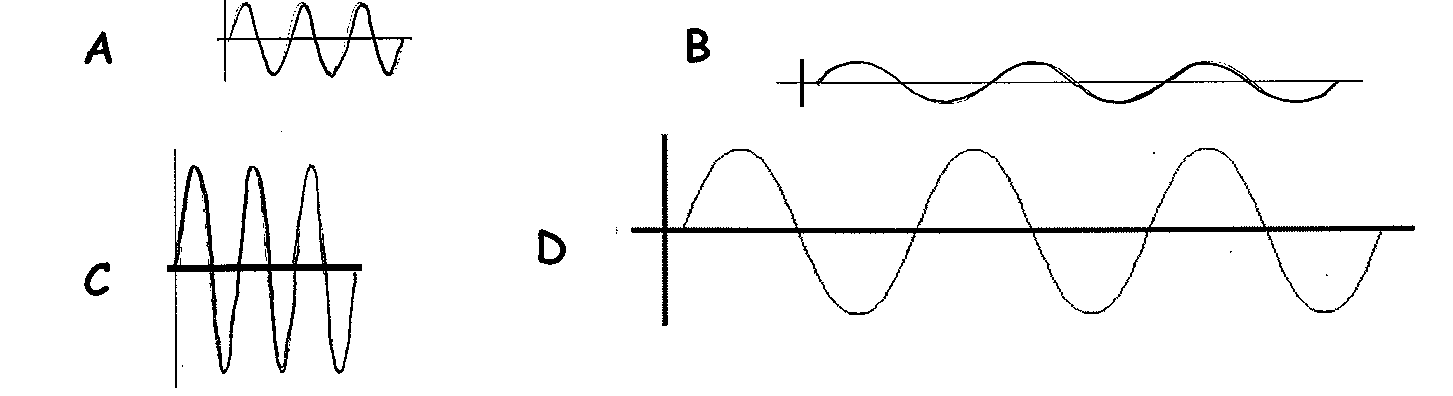
**Energy Transmissions Exam Revision**

1. Identify the types of waves shown in the diagrams on the right:
   1. Top: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Bottom: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Give an example of each of these types of waves:
   1. Top: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Bottom: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. For each of the following waves state whether the pitch is high or low and whether the sound is loud or soft.



* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is wrong with diagrams A-D above?

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1. On wave D above label the following features: *crest, trough, amplitude, wavelength.*
2. Explain the difference between a compression and a rarefaction.

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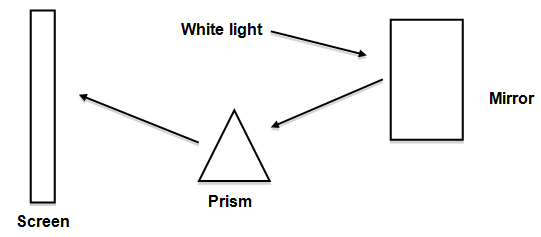
1. Explain why sound travels more quickly in solids than liquids and in liquids than gases.

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1. The diagram below shows the following: “White light is shone on a mirror and the light directed into a prism”.



Based on the diagram, complete the following sentences:

1. The light is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the mirror.
2. The angle of incidence is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the angle of reflection.
3. The light passing through the prism changes direction or is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
4. When passing **into** the prism the speed of the light \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the ray of light bends \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the normal.
5. When passing **out of** the prism the speed of the light \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the ray of light bends \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the normal.
6. The light passing through the prism is dispersed into a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
7. \*A red filter is placed in front of the prism. What colour is seen on the screen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
8. \*A red filter is placed in front of the prism and blue filter is placed in front of the screen. What colour is seen on the screen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. \*The filters do this because they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ all colours in the light except the colour of the filters.
10. Describe the difference between the terms transparent, translucent and opaque, giving an example of an object for each.

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1. Draw a convex and concave lens and show how parallel rays of light pass through each type of lens.
2. Assuming that sound travels at 330 m/s, calculate:
   1. The distance sound has travelled if the time it takes to reach an object is 10 seconds.

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* 1. The time it takes sound to travel 1 kilometre.

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1. Assuming that light travels at 300,000 km/s, calculate:
   1. The distance light has travelled if the time it takes to reach an object is 10 seconds.

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* 1. The time it takes light to travel 1 kilometre.

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1. In order, list the components of the electromagnetic spectrum from **lowest** energy to **highest** energy.

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1. Choose and describe **two** of the components of the electromagnetic spectrum (excluding visible light). E.g. wavelength, frequency, uses, dangers, energy level.

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1. List the colours of the visible spectrum.

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1. Draw and label a diagram to explain refraction.